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(54) Title: PHYTASE PRODUCED FROM CITROBACTER BRAAKII

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(57) **Abstract:** The present invention relates to novel phytase enzyme, a gene coding the enzyme, and a *Citrobacter* sp. producing the enzyme. Particularly, the present invention relates to the phytase enzyme produced from *Citrobacter* sp. having (a) molecular weight of 47 kDa, (b) optimal pH of 3.5-4.5, (c) optimal temperature of 45-55 °C, (d) as substrates phytate, p-nitrophenyl phosphate, tetrasodium pyrophosphate, ATP or ADP, (e) Michaelis constant of 0.3-0.5 mM utilizing phytate as substrate, and (f) high resistance to protease such as pepsin, trypsin, papain, elastase or pancreatin. The present invention also relates to the gene coding the phytase enzyme and the *Citrobacter* braakii producing the enzyme. The phytase enzyme and the *Citrobacter* braakii producing the enzyme of the present invention can be used in manufacturing a feed of monogastrics as feed additive and in recovering a specific decomposition product of phytate at low price.

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